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at 25 cents each.

• EDITORIAL •

Let's Go Canada

Much has been written and spoken in recent weeks and months urging the Canadian government to "give a lead" to the people in connection with the war effort. Much blame has been laid on the government for the lack of enthusiasm in this connection and the criticism may be justified, we wouldn't know. What we do know is this. Governments, or at least democratic governments don't lead, they follow — public opinion — and if anyone is to blame for what appears to be a lack of enthusiasm in connection with this war it is YOU and I, not the government. Instead of waiting to be told, it's you and I who should do the telling. Most of us are sick and tired of the pussyfooting that has been and is going on and in many places, we want action and more action. We are not afraid of sacrifice, at least most of us are not, so long as that sacrifice is necessary in the conduct of the war and if the sacrifices have not gone far enough to suit most of us it is our own fault, not the fault of the government. We have not "given a lead" to the government and as a result the government is not going fast enough to suit a lot of us. Then, let's change the situation. Let us, for a change, tell the government what we want. First of all, in the early days of the war, we were told consistently that this would be a long war, that the powers that be had planned it so. And, it seems they were right. They probably know more about it than we do at that, but circumstances change and the war has been long enough now. We have been told not to underestimate the strength of the enemy, that he is still strong and that it will take a long time to beat him. We know nothing of military strategy but we have been told that we possess some glimmering of intelligence and it would seem to us that morale is one of the things that we lack. Morale in the sense that we feel in our very bones that we are better than the enemy, that we want to get in there and lick hell out of him and we know we can do it. We are sick to death of these strategic withdrawals which to our minds are nothing but retreats, we are sick of being told that the enemy has superior numbers and equipment and then in the next breath that the United Nations have a preponderance in man power and that we shall shortly pass him in production of war materials. Let's do something now. We are told that shortage of equipment and shipping prevents an invasion of Europe to open up a second front in order to help Russia. If that is so let's do something about it, even if it means that every last one of us is compelled to do several hours per week in shipyards or munition plants or aeroplane factories apart from our regular job. We are prepared to do such things if necessary. Let's tell the various war boards in Ottawa that we are prepared to accept restrictions on our liberty so long as they mean something to the war effort, but that we see no sense

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in some of the petty-fogging rulings that come up from time to time and that do not generate any enthusiasm for the war effort. Let's tell them that we want more military bands, that we are not fighting Hitler and Goering and Goebbels and Mussolini and Hirohito but the whole German, Italian and Japanese people. Let's stop looking at this war as a three ring circus to which we have paid for a seat in the grandstand or of fighting our enemies as though the war were an exhibition boxing bout in which we shake hands with the enemy at the start of the bout and at the finish. We want no truck with people who make war as a matter of course and who are responsible for the chaos that exists, either now or after the war. Let's lick them good and plenty and after it is over let's make a better world than we have ever known, but don't let us make the mistake of urging Germans and Italians and Japs to make their homes in this or any other country. They have shown they are not fit to live with decent, law abiding people, so let's keep them where they belong if there are any left, and it might not be a bad idea to make sure there are few if any left. Let's bomb the German and Italian and Japanese cities and if women and children are killed, what of it? Didn't thousands of British women and children die in the Battle of Britain and since? Let's stop pulling punches and go all out both on the home front and in the front line. Let's stop being passive and become MAD, REAL FIGHTING MAD, AND LET'S GO CANADA.

Across the Secretary's Desk

We are now at the end of another season and despite the many difficulties encountered, we can say it has been a good one. Extra work necessitating long hours of overtime has made it difficult for many members to attend meetings consistently, and yet the attendances did not fall down unduly, taking the season through.

Next season there will be further difficulties, especially in chapters where the membership is more or less scattered. Gasolene rationing will make it difficult for many to attend but much thought has already been given to this problem.

The extreme difficulty of providing really good speakers is another thing to be faced, but here again something will be done to ease the situation.

As a matter of fact there are already several suggestions made to counteract these difficulties and when next September rolls around we anticipate another great season.

One thing stands out and that is that the Society is in the strongest position in its history, and that is something.

Most of the chapters will wind up the season by the end of this month.

Hamilton has a meeting on the 29th, Niagara on the 24th, and Windsor on the 30th. Ottawa wound up on the 20th and Kitchener on the 16th, while Toronto had for its wind-up a Dinner Dance which they tell me was a honey.

The Annual Meeting will soon roll around, this time in Toronto, and it should be another great affair with a large attendance and much to talk about.

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If you live anywhere near Toronto, you had better be in attendance on that occasion.

While arrangements are far from completed it promises to be another highlight in the history of the Society.

There is just one other thing to be mentioned before this corner closes for this issue, and that is although our season is just about ended, that does not prevent new applications for membership.

These are always welcome and members are asked to bear this in mind and to start in right now in an effort to boost the membership.

R.D.

Literature Received

Scheduling Shipments Under Priority Regulations.

N.A.C.A., April 1.

Subcontracting Expands the Internal Audit Program.

N.A.C.A., April 1.

While the two articles listed above are widely different, they both concern war production and should be most interesting to all Industrial Accountants, especially those engaged in war work.

Cotton Gin Profit Charts.

N.A.C.A., April 15.

While the article may not be of real interest to many members, it nevertheless does contain material which should be of interest to those interested in profit charts in any industry.

Time Records, Time Sheets and Costing Systems for Public Accountants' Offices.

The Accountants' Journal, January.

An article of real interest to those engaged in the Public Accounting field.

Milk Distributing Costs.

Federal Accountant, February.

A short but interesting and informative article which is of interest chiefly to those engaged in the Milk Distribution business.

Visible Cards and Administration.

Federal Accountant, February.

A short article, but one of real interest to all Accountants and especially to those charged with authority in administration.

Valuation of Inventories — A Study with Additional Observations.

Can. Chartered Accountant, February.

Here is a study by three competent authorities with observations by another of a subject which is always of interest to Accountants.

Overhead Cost — Functional Collection and Product Incidence.

Cost Accountant, January-March.

A most interesting paper which deals with the true incidence of direct expense on products. It is most complete with numerous charts and is an article which should be widely read.

STANDARD COSTS IN THE CLOTHING INDUSTRY

New Members

Montreal Chapter.

J. A. Blouin, Dominion Oilcloth and Linoleum Ltd., Montreal.

Toronto Chapter.

John Farrer Jr., Dart Union Co. Ltd., Toronto.

Hamilton Chapter.

G. M. Ogilvie, Massey-Harris Co. Ltd., Brantford.

Miss Marion E. Servos, Tuckett Tobacco Co. Ltd., Hamilton.

Ottawa Chapter.

C. W. Kindree, Denison and Armstrong, Ottawa.

Windsor Chapter.

George McTavish, Kelsey Wheel Co. Ltd., Windsor.

Niagara Chapter.

G. Oates, Ontario Construction Co. Ltd., St. Catharines.

Standard Costs in the Clothing Industry

By ALFRED P. FOGERTY, M.Com., A.R.A.N.Z., A.A.I.S.

Reprinted from The Chartered Accountant in Australia

In view of the rapidly developing interest in cost accounting generally and in standard costs in particular, it is proposed here briefly to outline the background to a system of standard costs designed specially to meet the requirements of clothing manufacturers, and then to describe the compilation and verification of the standard cost sheets.

A.—Background to Standard Costs

Basis of Standard Costs.—The whole subject of standard costs is to provide, in the case of a standardized product being produced under mass-production conditions, accurate cost sheets for articles in advance of the period during which it is proposed they should be manufactured. By means of standard costs an attempt is made to forecast the future.

At the outset of a year, therefore, a detailed budget must be most carefully prepared having regard to its fundamental effect on each cost sheet and the undesirability of revision after the experience of the first few months of the year. The following constitute the main items which have to be forecast:—

(1) A basis must be laid down for the calculation of a standard material price for the coming year in respect of each item of raw material used in the course of manufacture. The actual landed costs of materials into the store over the year will vary due to a multiplicity of causes. The object is

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to arrive at a figure which will be equal to the average of all the landed costs of a material weighted by the respective quantities received. The standard material price sums to forecast and take into account both trends and which are received during the year. The most satisfactory way is to lay down a basis of calculation in respect of different classes of goods. For instance, an acceptable grouping would be—plain cotton piecegoods, combinations of cotton and artificial silk piecegoods, metal fittings, rubber goods, laces, and so on. Constant reference to overseas publications giving world cotton prices and information as to factors affecting supply and demand in the near future will keep the cost accountant au fait with conditions and provide for him an accurate basis on which to forecast future movements in the prices of his own cotton materials. It, for example, is expected that prices as a whole will rise ten per cent. in gradual increases during the next twelve months, then the basis of calculation of the standard material prices for cotton materials will be the landed cost at the beginning of the year plus five per cent. Slight individual variations within a group will tend to balance out. Standard material prices within a group would only be altered if it became obvious from experience that the basis of calculation was incorrect having regard to the group as a whole.

(2) An estimate must be made of the total number of direct labor hours to be worked during the coming year. This will involve estimates of the number of staff to be employed, the amount of overtime that will be worked, the amount of short time due to sickness or other causes and the exact number of working days in the year. Past experience will be of inestimable help in formulating these estimates.

(3) The direct labor rate must then be forecast for the year. Once again the past year's experience will be of considerable assistance, but great care should be taken to see that only the wages of operatives are used for the computation. Careful thought must be given to the possibility of an increase in award wages, and other factors likely to produce an increase in the hourly rate. Any marked trend in the average age of employees would be of substantial importance in this connection.

(4) The factory overhead and general overhead rates can best be calculated from the main financial budget showing the anticipated position which will result from the year's trading; this will show the amounts allocated for the various items of expense which go to make up factory and general overhead. The factory overhead rate should be fixed at so much per hour on the basis of the estimated number of direct labor hours to be worked during the year. The estimated general overhead should be worked out as a percentage of the estimated total factory cost. The component parts of factory cost are materials, labor and factory overhead. The value of the two latter items will be ascertained if the hourly rates are multiplied by the budgeted direct labor hours. The value of materials to be used can be obtained by taking the usual material content percentage of the estimated value of production.

Once this budget has been completed and the various rates all fixed, attention can be focused on the actual costing procedure. But at this juncture, too much stress cannot be laid on the importance of drawing up an accurate budget. If expenses are underestimated or rates cut too fine, the standard costs of garments may be below actual cost, so that the profit earned will not be as great as was expected. Under normal conditions this might not matter

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very much, since as soon as he continuously checked up numbers under-costed and therefore under-priced, the price could be raised slightly to rectify the matter. With the present system of price control, however, an increase in price is a matter which is no longer left for the manufacturer himself to decide. The only alternative way if he is not willing to approach the Tribunal for authority to increase the price of a number, is to carry it, although the percentage of net profit is less than standard. Among fashion garments, of course, it is an easy matter to drop a "fine" garment from the range, and replace it with a slightly different garment more profitably priced. The implications arising from budgeting too finely can thus be appreciated. On the other hand, to budget conservatively and produce an overstatement of standard cost may have an equally serious effect if the market is very competitive.

Time and Motion Study.—A full use of time and motion study implies complete specialization of function among the operatives and a standardization of the process of production or sequence of operations. Its main object is to ascertain what may reasonably be expected of operatives performing the different operations in the course of production. Then by analyzing a new garment into the various steps which will be required to be performed an accurate forecast can be made of the labor hours required to produce a new garment before that garment is ever put into standardized production.

When making a time study, extreme care should be taken to ensure that normal conditions of work are prevailing. Some of the more important precautions to be taken are these:—

- (1) If possible the operative should not be allowed to know that a time study is being taken, since the psychological reaction is always to speed up production.
- (2) Since in most instances this is impossible, the operative should be impressed that she is only to work at her normal rhythm rate.
- (3) As a safeguard against her speeding up output, the time taken to perform the operation should be taken over a considerable number of consecutive performances. This is an easy matter if one of the triple stop watch devices is used. If the operative exerts herself unduly during the study, it is likely that the time taken to perform the operation towards the latter end of the study will increase.
- (4) The time of the day and the day of the week are other points to be considered in making a time study. A Friday would be a bad day since factory statistics show that production is always lower on a Friday due to exhaustion on the part of operatives. Similarly statistics also indicate that productive capacity is below normal early in the morning or late in the afternoon.
- (5) Regard should also be had to the physical health of the operative before a time study is taken of her performances.
- (6) Remember that an endeavour is being made to ascertain how long it takes the operative to perform her operation when she is working normally and rhythmically.

Such a study should be made of the performances of each girl doing the same operation. The rates of performances for the different girls should then be compared and the extreme cases (very quick or very slow) eliminated. After averaging the more representative results, an addition of ten per cent.

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(this will vary according to particular circumstances), should be made to cover natural deficiencies such as the inability of an individual to maintain application continuously, and other breaks in the continuity of the performance outside the control of the operative. This final result can then be reduced to the standardized rate of performance which in the case of the majority of operations will be inches of stitching per minute. Separate rates will, of course, be calculated for different types of stitching such as single seaming, two-needle strapping, three-needle strapping, overcasting, etc.

The same method is used to arrive at a standard time to be allowed for all operations being performed throughout the factory, even for the inspections which every garment should undergo at specified stages in the course of its manufacture.

The system is made watertight if the standard times laid down for different operations are tied up with the system of wage payments. This is achieved when piece-rates are adopted and the rate allowed to each girl is adjusted so as to return her weekly wage for an output equal to the standard laid down for her operation. Excesses over the standard would be rewarded by bonuses. If reference to the pay sheets each week discloses that a fairly high percentage of the operatives in each section are earning bonuses, the standard rates of performance laid down are thereby proved to be reasonable.

B.—Compilation and Verification of Standard Cost Sheets.

When a new garment is designed, patterns and specifications of the materials to be used are prepared, and a sample is made under the supervision of the designer.

After the garment has been made, a standard cost sheet is prepared. Small fractions in calculations are avoided by having the cost sheets worked out for one dozen garments. First, all the materials to be used in the garment are listed in detail on the cost sheet. To ascertain the quantities which will be required of those materials which have to be cut, the patterns are laid up and measured, and the yardage calculated and entered on the cost sheet. To avoid having a separate cost sheet for the different sizes made of the same garment, yardage is calculated on the basis of the requirements of the middle number in the range of sizes to be produced. The materials are costed at the standard material prices whose calculation has been described above. The total material cost should be sub-totalled and an addition of five per cent. added to cover the small wastage which is inevitable where materials are cut or where small fittings have to be used.

Next is the calculation of the number of direct labor hours required to make one dozen of the garment. The sample of the new garment is taken by an expert who prepares the manufacturing schedule. The first problem is to list on the manufacturing schedule details of every operation required to be performed in the production of the garment. The detail here is complete; it starts with the laying up and cutting of materials and finishes with the cutting of cotton ends, final examination, ironing and boxing. Great skill is required in deciding the sequence of operations which will ensure maximum efficiency in production. Each operation must then be measured in terms of the units of the rate laid down as standard for that particular operation. For example, on measuring the garment it may be found that there are 50 inches of single seaming. If the standard rate for this operation is 25 inches per minute, the time required for one dozen garments will be

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extended on the manufacturing schedule as 24 minutes. When completed, therefore, this schedule shows the total direct labour hours required to manufacture one dozen garments. These hours are then entered on the standard cost sheet and extended at the direct labor rate and the factory overhead rate as explained earlier.

At this stage the standard cost sheet is again sub-totalled ready for the addition of the general overhead percentage. For convenience it is desirable that the final figure on the cost sheet should include an amount for net profit and therefore represent the price at which the garment should be sold. But in view of the fact that the calculations are done by juniors, it is desirable that the profit percentage should be included with the general overhead percentage so that the profit on the garment remains known only to the cost accountant. For example, if the standard general overhead rate is 30 per cent. of factory cost and it is desired to operate with an addition of 10 per cent. to total cost for net profit, then the addition to the sub-total representing factory cost should be 43 per cent.

Lastly there should be added an amount to cover any royalty which has to be paid on the garment. The standard cost for the garment is now complete and can be submitted together with the sample to the manager and sales manager for their approval and the fixation of the price at which it is to be sold.

The procedure involved in the preparation of the standard cost sheet has been described. It is the duty of the cost accountant to keep a constant check on the costs of all garments to ascertain actual deviations from the standard. Experience shows that the major cause contributing to these deviations is fluctuations in the landed costs of materials. And as this is the most difficult of the various component costs to check, the greater part of the routine in the verification of standard costs centres around material costs.

The costing department should have detailed records regarding the costs and quantities of all materials purchased. In view of the special requirements of the costing department and the great use to which these records will be put, it is desirable that they should be made supplementary to the main material stock records which are usually kept on one of the visible card systems. A visible looseleaf ledger will meet the requirements admirably and is at the same time easily handled. A specimen leaf is shown under the heading Material Cost Record. (Table 1.)

The information which would be recorded on leaves ruled as suggested would be as follows:—

The first six columns would be used to record particulars of each quantity of the material received. The columns are for the most part self explanatory; the second column in practice is found to obviate much confusion, while the sixth column helps to explain fluctuations in landed costs where the origin of supply has changed with consequent changes in the rate of Customs duty charged. In order to keep the cost accountant au fait with all indications of change in prices, overseas suppliers should be asked to furnish monthly quotations, irrespective of whether any orders are being placed; and such information when recorded in the quotations column proves invaluable when forecasts are being made. The quantity and value of the material consumed each quarter should be entered in the columns provided. Apart from the value of this information when considering purchases, it

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furnishes an excellent basis for estimating future requirements when drawing up applications for import licenses. In the last column is entered the price at which the material is to be costed into all garments over the ensuing year.

These records can be written up either direct from the invoices covering purchases, or, alternatively, the information can be extracted from the material stock cards. The latter way is very quick if the material stock cards are signalled when entries are made.

The system outlined above provides the necessary information for calculating the actual material cost of a garment at any time, as compared with the standard material cost of that garment. The cost accountant should see that the standard cost of every garment in the range is checked against the actual cost of that garment, at least every two months. The frequency of these checks is, of course, governed by the magnitude of the range of garments. The method to be followed in checking a standard cost is simple. The standard cost sheet should be used as a guide, and the actual cost worked out on a calculation sheet with columns ruled for the yardages or quantities of materials, prices and extensions. The prices will be taken from the material cost records, and should be the landed cost of the last purchase of the material being priced.

The next variable item affecting costs is the direct labor rate. As regards labor hours, it will be remembered that any deviation from the standard laid down for any one operation would be reflected immediately in the bonuses earned by the operators in that section; and since it is customary to scrutinize these closely each week, any deviation from the standard performance would be picked up at once. A marked deviation would call for an immediate adjustment of the standard rate of performance. It is a simple matter to calculate the direct labor rate for each week from the factory wages sheets; and if a record is kept the total hours worked each week, together with the total wages paid less excess overtime pay and any other necessary adjustments, the direct labor rate may be calculated for any period of the year.

The actual factory and general overhead rates can be calculated each month from the monthly statements prepared from the financial books.

Then using the same direct labor hours as shown in the standard cost sheet, and the actual labor and overhead rates calculated as explained above, the actual cost of the garment may now be completed.

The final step is the comparison of the actual cost with the standard cost. Since this information is likely to be referred to constantly, a card should be kept for each garment and the costings recorded in summary form.

A suitable ruling is shown under the heading Cost Summary Card, (Table II.)

In the first column is recorded a summary of the standard cost of the garment. The only respect in which this information differs from that shown on the standard cost sheet is that the net profit on the garment is separated from the general overhead. These cards are, of course, treated as confidential. At the foot of the card a comparison is made between the costed price of the garment and the price at which it actually sells. If the wholesale price exceeds the costed price, the difference is entered in green; if it is less than the costed price, the difference is entered in red and a note is also made in red of the extent to which the price obtained for the garment fails to return profit,

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TABLE I.
MATERIAL COST RECORD

Date	Unit of Quantity	Landed Cost	Bought at Price	Quantity received	Origin and Duty	Quotations received Date	Quoted Period	Quarterly Consumption Quantity	Value	Standard Material Price

TABLE II.
COST SUMMARY CARD

Garment No.	Wholesale Price: 20/- each				Rate			
	Retail at				Rate			
Type	SUMMARY OF COSTS				Actual Cost			
	Standard Cost				Rate			
Materials	Rate				11/9/40			
Labor								
Factory Overhead								
General Overhead								
Production Cost								
Profit								
Royalty								
Costed Price								
Diff. from Wholesale Price								
Costs not covered by Wholesale Price								
Factory Overhead								
General Overhead								
Profit								
Total								

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and overhead. As and when actual costs are calculated for the garment, these are summarized in the successive columns provided on the card.

The date when the cost is prepared is filled in at the top of the column and the rates for items, such as labor, overhead, profit and royalty are entered in the rate column. In this way a comparison is made between the standard cost and successive actual costs. If it is found that by reason of higher costs of production the actual costs exceed the standard cost, either steps must be taken to secure authority to increase the price of the garment or else it should be withdrawn from the range.

To complete the system, it is necessary to keep a record of the actual number of each garment sold every month. The object of this is obvious. If a garment is not selling, it is of little consequence that such a garment is under-priced relative to its cost of production.

Principles of Standard Textile Costing

Accurate, systematic knowledge of costs necessary to efficient production.

Essentials of a good costing system are: Simplicity and Convenience,

Relative Product Costs, Equitable Distribution of Overhead,

Direct Application to Sales Period, Proven

Accuracy, and Convenient Recheck.

By RALPH E. LOPER

Ralph E. Loper Co., Fall River, Mass.

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The Textile Industry has many features which, if properly utilized, make it possible to get more accurate costs than can be had in engineering work or the machine shops and at the same time to greatly reduce the clerical work required to maintain the system.

In designing a costing system for a textile plant one should take full advantage of the fact that the processes of manufacture are continuous, that the order of the operations does not change and that there is a uniformity in the material used and in the production efficiency week after week. Any one coming into the textile industry from almost any other industry is certain to be impressed by the high degree of operating efficiency obtaining in the majority of textile plants. I have seen increases in output amounting to 30 or 40 per cent in other industries attract less attention than a 5 per cent increase in a well-managed textile plant. Often a difference of 10 per cent in the production from a textile mill would mean the difference between profit and loss. The continuous nature of the textile processes and the fairly uniform results week after week make it possible to greatly simplify textile costing methods and at the same time to increase their accuracy.

Costs and Profits.

Those selling the products of textile plants frequently contend that it does little good to know costs accurately because they do not set the selling prices, but, instead, are obliged to accept the market. It is quite true that gray goods mills seldom have the chance to set their own prices, but they have a chance to choose in most markets the constructions they will make.

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There is a real opportunity to increase the profits of a mill through cost data by wisely choosing the constructions to make. This can easily be demonstrated by anyone who will take the trouble to compare the market prices on his different constructions over a period of years. That such opportunity exists for mills making the most common kinds of plain goods can be shown by comparing the prices during the past ten years of standard prints, tobacco cloths, sheetings, shirtings, poplins, crepes, and other weaves which can be made on plain looms or to which they can be adapted. One finds that goods on which the market prices per pound are within one cent of each other at times will differ by several cents per pound at other times for periods of over a year. There are numerous examples of this sort and it does not require accurate cost data to prove that market prices do not reflect manufacturing cost, and that the treasurer who knows his margin of profit on each style has an important advantage in any market.

The General Books and the Cost System

The relation of the modern standard costing system to the general books is somewhat similar to the relation of a budget system to the general books.

The general accounts are the most dependable source of information regarding expenditures during previous periods. The sales management is, however, much less interested in what actual costs were for the period that is closed than in the probable costs for the period during which sales are contemplated. The fact that a costing system ties in with the general books for the previous period is no indication that it is a safe guide for the future sales policy.

With the records of the general books before one, it is well to separately consider each item which is to go into the cost records. If the price of fuel has just been reduced 20 per cent, then the amount allowed for it should be reduced accordingly. If an increase in tax rates has been announced, a proportional increase should be made in the allowances for these taxes, and so on, through the list of items.

If the combined costs of all products will prove with the budget determined as above and with the actual production, it is safe to believe that the profit indicated on each sale will be realized at the close of the period. By this method the costs may be said to reconcile with the general accounts, although they do not tie in with the general books for any historical period.

Production Records

Reliable production records from the manufacturing departments are very essential for maintaining the accuracy of a costing system. The detailed results from a costing system will not be more accurate than the basic information entering into the calculations.

To meet the requirements of the superintendent, production data must be available at frequent intervals and must reflect in detail the results of each operation. The operating department is more interested in the facts which affect cost than in the cost figures themselves. The agent who sells the cloth needs to know the final cost per yard so as to compare it with the market price in choosing profitable styles. It is not enough to tell the superintendent that the manufacturing cost of a style has increased one-eighth of a cent a yard. This increase may be due to low production in any department from the picker room to the cloth room, or it may be due to goods being above weight, to high cost of supplies, to an extra amount of help or to higher wage

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rates. The superintendent must know exactly what has caused the increase in the cost per yard before he can take any corrective measures. Suitable comparative reports showing in detail for each department the changes which ultimately affect costs are far more useful to a superintendent than the final cost figures.

Since the requirements of the production department and the sales force are so fundamentally different, it is well not to try to make one set of records serve the two purposes at the same time. In fact, it is possible if the separation is logically carried out, to meet the requirements of both branches of the business much more fully and at the same time reduce the clerical work required to maintain the costing system.

In doing this the costing system should be made to serve primarily the sales force. The superintendent can then be provided with up-to-date comparative reports covering the consumption of supplies, the weight of his goods, the production at each process, the department payrolls, etc. If proper standards have been set as a guide, records of this sort will make it possible to discover the causes of high cost promptly, and while there is yet time to correct them.

These records would be filed and later analyzed to furnish a basis for the development of reliable comparative costs by products.

Distribution of Overhead.

The majority of textile mills have made some study of their costing problems. Very often the superintendent has made a very reasonable distribution of the payroll. In many cases the advantage thus gained has been lost, however, when the distribution of supplies, salaries, depreciation, taxes, insurance, etc. has been attempted.

Some treasurers contend that it is not necessary to divide the overhead between the weave room and the various yarn departments to get accurate costs by fabrics. They frequently argue that since they sell only cloth, all these charges must be borne by the cloth eventually so that it does not matter how they are distributed, so long as the correct total is included.

By comparing the results from a number of mills where the burden has been correctly distributed, we find that it has a very important bearing upon the relative costs of styles. In mills having simple looms and making plain cloth the overhead charges are about as important as the weaving piece work. Among mills using automatic looms, the overhead charges are very often more than twice as much as the weavers' pay. Confusion and errors are apt to occur if the costing system fails to make each product bear its fair portion of the overhead.

That the proper distribution of overhead is not unduly complicated nor difficult to understand may be shown by considering several typical items.

Property Taxes are distributed upon the value of land, buildings and machinery used by each department;

Fire Insurance on buildings and machinery is distributed upon the value of buildings and machinery;

Liability Insurance upon the payrolls of departments, and

Power Cost upon the horse-power required by each department.

Similarly, for nearly every item of overhead there is a reasonable basis

PRINCIPLES OF STANDARD TEXTILE COSTING

for its distribution, so that each department shall bear its proper share and reliable machine charges may be developed wherever required.

Essentials of a Costing System.

Briefly stated, the points which any good costing system should cover include the following:

1. The system should be simple to operate and convenient to use. The agent or treasurer should be able to quote on any of his styles in any raw material market without delay.
2. The system must preserve the true relative cost of the various products. That is, it must be free from the effects of accidents in production and any unusual temporary manufacturing conditions.
3. The overhead must be distributed in such a way that each product will bear its equitable share.
4. The costing system should be prophetic rather than historical. Its accuracy should apply to the period for which sales are contemplated and not to any period of the past.
6. The costing system should furnish the management with convenient checks upon current actual manufacturing costs.

Costs of Operation.

The cost of operating such a costing system is usually less than one cent per one hundred yards of cloth produced. Those managements which have shown the best records of earnings year after year believe in the value of modern costing methods and use them in their plants.

This was strikingly illustrated by a study made in 1930 by the United States Cotton Textile Institute. In their study they picked a representative list of fine goods mills and then ascertained what their earnings were in 1929 and what the status of each was with reference to modern costing facts. This study showed two interesting facts.

1. Of those mills which made money, eighty per cent were using modern systems of cost accounting.
2. Of those mills which used their own home made cost system, 87 per cent lost money.

Control of Operating Cost.

The standard costing system not only furnishes a reliable guide in the choice of profitable fabrics, but can also be used advantageously in directing efforts to reduce manufacturing costs. One of the first steps in developing a standard costing system is to establish careful budgets covering all items of overhead and labor, and setting up standards on speeds, production, waste, etc. Many mills are finding this information to be an invaluable help in their efforts to reduce costs.

Unless one has the opportunity to compare costs on similar fabrics in a great many plants, it is hard to realize the extent to which manufacturing costs can be reduced without reducing the size of the employees' pay envelope. It is not unusual to find differences in cost among mills in the same locality on the same fabric amounting to more than twice the normal profit on the fabric.

That these differences can often be eliminated in comparatively short time by well-directed team work among the overseers may well be illustrated by a few typical experiences.

COST AND MANAGEMENT

A well run New England mill which was operating at a profit at a time the special studies were begun, put into effect within a period of six months, permanent savings which on an annual basis amounted to more than a dollar and fifteen cents per spindle.

Another textile mill with a long record of successful operation and earning a profit at the time the special studies were begun, put into effect within a period of twelve months, savings in excess of two dollars per spindle per year. Neither of these mills purchased any new machinery to accomplish these permanent savings.

Several other mills which were operating less successfully and which had no funds available for the purchase of new machinery were able to put into effect within a period of twelve months savings substantially higher on a single shift basis than the figures mentioned above.

The majority of mill executives would feel justified in spending as much as ten dollars per spindle for new machinery if they could be assured of a permanent saving in cost amounting to two dollars per spindle per year. In other words, they would consider the purchase of new machinery fully justified if it showed them an annual return of 20 per cent on the investment. Each of the above-mentioned mills received an annual return of more than 400 per cent upon the total cost of working out these savings and putting them into effect.

Selling Costs.

Many mills which have a modern system for ascertaining the manufacturing cost of their various products still use a uniform percentage of selling expense applied to all their products. If a mill produces a narrow range of products which are all distributed in the same manner this may give sufficient accuracy.

Usually, however, it will pay to analyze this situation carefully separating the products into several groups and charging to each group as many direct items of salaries, travel expense, advertising expense, carrying charges, etc. as possible. After the balance of selling costs are apportioned equitably, it may prove a real surprise to see how much selling costs differ between the various lines of products and between different channels for distributing the same product.

A costing system is not a system of management. It is not a substitute for good trading ability or foresight, but if it is properly designed and the cost figures are reduced to compact convenient form, the system will pay its way many times over and will leave the management much more time in which to study markets, search out profitable lines, and handle the many other important problems which claim attention.

Address delivered before The Textile Society of Canada, Eastern Division, at the Mount Royal Hotel, February 7th, 1942.

EXAMINATION QUESTIONS

Canadian Society of Cost Accountants and Industrial Engineers

EXAMINATION — FUNDAMENTALS OF COST ACCOUNTING

Wednesday, 22nd April, 1942, 6 p.m. to 10 p.m.

FUNDAMENTALS OF COST ACCOUNTING

Marks:

1. The Morton Manufacturing Company maintains a system of Perpetual Inventories in respect of its raw material stores.
 - (a) Define "Perpetual Inventory."
 - (b) Outline the procedure which would be followed in the operation of such a system.
 - (c) Discuss briefly its advantages and disadvantages.
2. The Brantford Steel Co. divides its factory into four productive departments, (1) Melting and Pouring, (2) Molding, (3) Core-making, and (4) Cleaning and Grinding.

Charges to the factory for the year ending December 31st, 1941, are as follows:

Direct Materials:

Melting and Pouring	\$ 24,000.00
Molding	8,000.00
Core-making	10,000.00
Cleaning and Grinding	12,000.00
	<hr/> \$ 54,000.00

Direct Labor:

Melting and Pouring	\$ 12,000.00
Molding	14,400.00
Core-making	6,000.00
Cleaning and Grinding	15,600.00
	<hr/> 48,000.00

Taxes (Machinery and Equipment \$144.00;

Factory Building, \$288.00)	432.00
Compensation Insurance — Direct Labor only	720.00

Indirect Labor:

Melting and Pouring	\$ 9,000.00
Molding	3,500.00
Core-making	1,100.00
Cleaning and Grinding	3,600.00
	<hr/> 17,200.00

Supplies Used:

Melting and Pouring	\$ 600.00
Molding	540.00
Core-making	2,200.00
Cleaning and Grinding	1,700.00
	<hr/> 5,040.00

COST AND MANAGEMENT

Power	1,500.00
Heat and Light	1,080.00
Depreciation on Factory Buildings	792.00
Depreciation on Machinery and Equipment	800.00
	<hr/>
	\$129,564.00

Other information available includes the following:

Department	Floor Space	Value of Machinery and Equip.	Direct Labor Hours	Machine Hours	Horse Power Rating
Melting and					
Pouring	450 sq. ft.	\$2,000.00	24,000 hrs.	10,000 hrs.	10
Molding	450 sq. ft.	500.00	30,000 hrs.	6,000 hrs.	5
Core-Making	900 sq. ft.	2,500.00	12,000 hrs.	14,000 hrs.	10
Cleaning and					
Grinding	1800 sq. ft.	3,000.00	36,000 hrs.	20,000 hrs.	25
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	3600 sq. ft.	\$8,000.00	102,000 hrs.	50,000 hrs.	50

- (a) Prepare a burden distribution sheet and show in detail the manufacturing expense apportioned to each department — specify bases of distribution used.
 - (b) Manufacturing expense is applied to production by rates established separately for each department. Determine departmental rates for distribution to production. For purposes of illustration determine rates for each of the four departments on a different basis.
- 20 3. (a) Explain the principle of the Control of the Cost Records by the General Ledger.
- (b) Give the entries for the following on both the General Ledger and the Cost Records.
- (a) Materials purchased on credit and placed in stores\$ 24,320.00
 - (b) Materials issued from stores:

Direct Materials	18,060.00
Indirect Materials	4,900.00
 - (c) Scrap Materials recovered from Factory and placed in stores 930.00
 - (d) Adjustment of stores inventory shortage on physical verification of inventory 360.00
 - (e) Total wages earned:

Direct Labor	16,770.00
Indirect Labor	3,950.00
 - (f) Wages Paid 19,400.00
 - (g) Manufacturing Expenses incurred 13,090.00
 - (h) Manufacturing Expense applied to production 14,100.00
4. The Halifax Electric Company manufactured a small unit designated as XB2, which they retailed at \$11.50 net. A review of the trial balance as at December 31st, 1941 revealed the following account balances for the year:

EXAMINATION QUESTIONS

Raw Materials Purchases	\$ 161,920.00
Duty on purchases of raw materials	450.00
Direct Labor payroll paid	90,657.00
Salesmen's Commissions and Salaries	78,479.00
Power and Light — Factory	6,947.00
Rent ($\frac{3}{4}$ Factory, $\frac{1}{4}$ Office)	3,600.00
Indirect Labor	12,094.00
Manufacturing Expense and Supplies	28,478.00
Travelling Expenses	21,966.00
Outward Freight	3,907.00
Officers' Salaries	25,000.00
Sales	512,865.50
Interest and Bank Charges	200.00
Office Expense	24,778.50
Cash discounts allowed on sales	2,530.00
Cash discounts received on purchases	1,472.00

Other information disclosed as at the same date was as

follows:

Direct labor accrued but unpaid	\$ 1,543.00
Depreciation on machinery and plant equipment	5,100.00

Inventory records disclosed the following:

Raw materials, Jan. 1, 1941	\$ 12,000.00
Raw materials, Dec. 31, 1941	11,650.00
Work in Process:	
1020 unfinished units, Jan. 1, 1941	3,794.00
Work in Process:	
1239 unfinished units, Dec. 31, 1941	6,047.00
Finished Goods:	
3160 completed units, Jan. 1, 1941	22,436.00
Finished Goods:	
2561 completed units, Dec. 31, 1941?

Prepare:

- (1) Statement of manufacturing — for the year ended Dec. 31, 1941.
- (2) Statement of Trading, Profit and Loss for the year ended Dec. 31, 1941.
- (3) Computation of:
 - (a) Number of units produced.
 - (b) Unit cost of production for the year.
 - (c) Amount of finished goods inventory, Dec. 31, 1941, assuming that unit production costs remain constant.

EXAMINATION—INDUSTRIAL ORGANIZATION and MANAGEMENT

Thursday, April 23rd, 1942, 8 to 10 p.m.

1. Deal briefly with three matters to be taken into consideration when a decision is to be made whether to establish a new plant near the power supply but at some distance from the source of raw materials, or vice versa.

2. What advantage does the straight line "mass production" method of manufacturing have over intermittent operations?

COST AND MANAGEMENT

3. If you were asked for your opinion as to the location to be chosen and the type of construction and layout to be adopted for an aircraft manufacturing and assembly plant, what would your advice be?

4. The term "Welfare activities" is in fairly common use nowadays. (a) What do you understand it to mean? (b) Indicate whether or not you are in favor of the developments to which the expression applies, giving your reasons.

5. Sketch a chart in such a way as to illustrate what is meant by the term "chain of responsibility."

6. At 1st January 1942 the A.B.C. Company had \$2,000.00 in the Bank and Accounts Receivable due to it of \$15,000.00. It owed \$5,000.00 to trade creditors and \$3,000.00 for Income Taxes due 30th April. It expects that its Sales for the period to 30th April will be: January, \$15,000.00; February, \$20,000.00; March, \$14,000.00; April, \$12,000.00, and experience has shown that collections are 50% in the month following that in which a Sale is made, 30% in the month following that and the balance in the third month. The Accounts Receivable at 1st January represent all December sales (\$10,000.00) and \$5,000.00 left over from November. The amount due to trade creditors is payable in January. Uncompleted purchase orders show that payments for raw material will be due as to \$8,000.00 in January, \$7,000.00 in February, \$7,000.00 in March and \$3,000.00 in April. It is anticipated that other disbursements will be: Wages \$2,000.00 per month; other manufacturing expenses \$1,500.00 per month and administrative and selling \$1,000.00 per month. The concern contemplates a modest expansion programme estimated to cost \$10,000.00 for which the funds will be required in April.

In order to establish whether funds will be available for that purpose, you are requested to prepare a cash budget for the period 1st January to 30th April, showing changes in the position month by month.

7. Outline the functions of (a) a Job Card and (b) a Material Requisition.

EXAMINATION — ADVANCED COST ACCOUNTING

Monday, 27th April, 1942, 6.00 p.m. to 10.00 p.m.

Marks:

1. Periodic examination of a Cost System in operation is recommended.
 - 12 (a) What advantages would accrue from such examination?
 - (b) What particular points should such examination cover?
2. The Canadian Production Co. determines its Standard Costs
- 18 for Material and Labor on Job AR 158 on the following basis:

1,600 pieces Material X94 at 52 cents	\$ 832.00
450 pieces Material Z312 at 18 cents	81.00
840 Man hours — Class A at 70 cents	588.00
670 Man hours — Class B at 50 cents	335.00

Actual Material and Labor used to complete this job were as follows:

EXAMINATION QUESTIONS

1,660 pieces Material X 94 at 55 cents

440 pieces Material Z312 at 20 cents

800 Man Hours — Class A at 71 cents

650 Man Hours — Class B at 54 cents

Required:

(a) Cost, (b) Price, and (c) Quantity Ratios for both

1. Materials and

2. Labor.

3. The Frontenac Corporation wishes to revise its system of
20 Budgetary Control to include a Variable (Flexible) Budget of Manufacturing Expense, and you have been asked to draw up a plan of operation for this Variable Expense Budget.

Expenses are to be grouped on the basis of responsibility, and accounts are to be arranged and numbered so that details may be coordinated with Departmental Budgets, and with a Master Budget for the Factory.

I. Outline, briefly, the operation of the Variable Budget system, including the steps to be taken (a) to set up the original estimates, and the Basic Budget Sheets for different production levels, and (b) to record the budgeted and actual expenditure and budget variances each month.

II. Submit the form designed to record the monthly expense performance of Dept. X with sufficient information to indicate the manner in which it is to be used.

4. The Burton Manufacturing Co. has been operating a process
20 cost system. The plant consists of eight productive departments, and manufactures five products, each of which is made up of certain units processed in the respective production departments.

The following table gives the average cost per unit in each department as determined by the process cost system during 1941, and states the number of units of production from each department that enters into each complete product.

Department	Unit Cost	No. of Units	No. of Units	No. of Units	No. of Units	No. of Units
		Alpha	Beta	Gamma	Delta	Kappa
Cleaning	\$7.20	1	....	4	3	2
Filling	2.40	....	10	1	....	3
Turning .....	.96	....	1	....	4	....
Shaping .....	.72	6	2	9	1	10
Grinding	3.60	7	....	....	7	2
Trimming	1.68	....	6	....	2	2
Winding	1.32	1	....	6	....	2
Finishing	5.16	5	....	....	....	6

On January 1st, 1942, the company discontinued its process cost system, and decided to apportion the cost over the various products by means of weighted averages — the lowest product cost to be taken as one point, with other products valued in proportion. The costs as determined in 1941 were to be used as a basis in determining the weighted averages for 1942.

COST AND MANAGEMENT

The quantity of each product manufactured in the first quarter of 1942 was as follows:

	Units of Product
Alpha	1,368
Beta	2,196
Gamma	780
Delta	2,796
Kappa	1,464

The total cost of this production was \$393,297.00

Required:

- (a) Statement showing the cost per complete unit of product for the year 1941.
- (b) The weighted average of each product in points as determined for use in 1942.
- (c) The total number of points of each product produced in the first quarter of 1942.
- (d) The apportionment of the total cost of the first quarter of 1942 over the various products.

5. The Books of the McKenna Company Limited showed the following balances as at January 1st, 1942.

Cash	\$ 30,000.00	Capital Stock	\$105,000.00
Machinery	75,000.00		
	<hr/> \$105,000.00		<hr/> \$105,000.00

The Company manufactures to order one product only — designated as Unit XK472.

The Company operates a Standard Cost System, carrying inventories of Stores at Actual Costs and Inventories of Work in Process, and Finished Goods at Standard Cost. Selling and Administrative Expense is applied to arrive at Total Cost to Make and Sell.

The Standard Cost Sheet for 1,000 units XK 472 was as follows:

Copper — 13,800 lbs. at 16c	\$ 2,208.00
Zinc — 5,400 lbs. at 7c	378.00
Steel — 9,600 lbs. at 4c	384.00
Direct Labor — 5,400 hours at \$1.00	5,400.00
Indirect Labor — 1,320 hours at 90c	1,188.00
Fixed Charges — 5,400 hours at 42c	2,268.00
	<hr/> \$ 11,826.00

Selling and Administrative Expenses:

2,400 orders at 90c	2,160.00
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TOTAL **\$ 13,986.00**

Transactions for the month of January were as follows:

1. Purchased on Credit, 15,000 lbs. copper at 16c\$ 2,400.00
2. Purchased on Credit, 6,000 lbs. zinc at 7c 420.00
3. Purchased on Credit, 9,000 lbs. steel at 4c 360.00
4. Direct Labor Payroll, paid in cash, 4,800 hrs. at \$1.00 4,800.00
5. Indirect Labor Payroll, paid in cash, 1,200 hrs. at \$1.00 1,200.00

EXAMINATION QUESTIONS

6. Fixed Charges, through reserves and accruals, 4,800 hrs. at 40c	1,920.00
7. Selling and Administrative Expenses, paid in cash, per order sold, \$1.00	2,400.00
8. Production — 1,000 units	
9. Sales — 1,000 units (2,400 orders):	
Total Selling Price	15,000.00

10. No Inventories remained as at January 31st.

Required:

- (a) Journal entries for all transactions, including variances, assuming that variance entries are made as charges are made to work-in-process.
- (b) Trial Balance as at January 31st, 1942.
- (c) Manufacturing, Trading, and Profit and Loss Statements for the month of January, 1942, assuming that variances are adjusted to respective items in the statements to convert standard costs to actual.
- (d) Balance Sheet, as at January 31st, 1942.

EXAMINATION — FIRST YEAR ACCOUNTING

Wednesday, April 29th, 1942, Time 6.00 to 10.00 p.m.

Marks:

- 15 1. A manufacturing concern purchased a machine for \$15,000.00. The estimated useful life of the machine is 3 years, and the estimated residual value at the end of 3 years is \$1,000.00.

Instead of making the usual entries, only, for depreciation, the company decides to build up a sinking fund to amount of \$14,000.00 in three years in order to have funds earmarked for replacement. The amount set aside each year is \$4,529.43 which, with interest accumulations at 3% per annum, will provide the \$14,000.00 required.

Assuming that the machine was purchased on January 1, 1942, and the entries are made and funds set aside on December 31 in each of the 3 years and also that the investment earns 3%, make the entries necessary, including those for interest accumulations and the Reserve.

Assuming that the old machine realizes \$1,000.00 on December 31, 1944, make the entries to record the writing off of the old machine, the realization of the sinking fund investment, and the purchase of a new machine for \$15,000.00.

15 2.—

A and B

Balance Sheet — March 31, 1942

Assets		Liabilities and Equity	
Cash	\$ 10,000.00	Accounts Payable	\$ 16,000.00
Accounts Receivable	30,000.00	Bills Payable	14,000.00
Bills Receivable	20,000.00	Mortgage Payable	40,000.00
Stock - Inventories	50,000.00	A - Capital	135,000.00

COST AND MANAGEMENT

Land	15,000.00	B - Capital	100,000.00
Buildings	80,000.00		
Plant and Machinery	100,000.00		

\$305,000.00

\$305,000.00

The above is the substance of the balance sheet of A and B, manufacturers, who share profits and losses in the proportions of 6 and 4 respectively.

The firm has agreed to sell its undertaking for \$255,000.00 to The X Company Ltd., payment to be made in 5% Preferred Shares (\$100.00 each) in the company.

The company also issued 1,000 common shares without par value at \$25.00 for cash and of the credit therefrom \$20.00 is to be recorded as Capital and the remainder as Distributable Surplus.

A further 100 shares of common were issued at \$15.00 a share to cover Organization (Preliminary) Expense and of the credit for the consideration received for these shares \$10.00 a share is recorded as capital. A further amount of Organization Expense, \$500.00, was paid in cash.

Assuming that the company will open a new set of books:

- (a) Make entries (Journal form will be accepted in all cases) to close the books of the firm.
- (b) Make entries necessary to open the books of the company.
- (c) Prepare, in proper form, the Balance Sheet of The X Company Ltd. as after giving effect to the opening entries.

55 3. The fiscal year of The Manufacturing Company Ltd. covers the period May 1 to April 30.

- (a) From the information submitted, prepare Manufacturing, Trading, Profit and Loss and Appropriation Accounts and a Balance Sheet as at April 30, 1942.

TRIAL BALANCE

April 30, 1942

DEBIT BALANCES

Cash on Hand	\$	4,000.00
Accounts Receivable		60,000.00
Bills Receivable		75,000.00
Inventories, May 1, 1941:		
Finished Goods		50,000.00
Work in Process		40,000.00
Raw Material		60,000.00
Purchases - Raw Material		233,000.00
Purchases - Finished Goods		15,000.00
Purchases - Factory Supplies		7,000.00
Freight and Duty:		
On Raw Material		20,000.00
On Finished Goods		2,000.00
Returned Sales and Allowances		4,000.00
Freight on Sales		1,000.00
Wages - Direct		89,000.00
Wages - Indirect		14,500.00

EXAMINATION QUESTIONS

Taxes - Factory	8,000.00
Taxes - General Office	1,000.00
Insurance - Factory	1,300.00
Insurance - General Office	300.00
Power - Factory	15,000.00
Light - Factory	500.00
Light - General Office	200.00
Heat - Factory	4,000.00
Heat - General Office	500.00
Repairs - Factory	12,000.00
Salaries - Factory	25,000.00
Salaries - General Office	40,000.00
Salaries - Salesmen	20,000.00
Factory Expense	15,000.00
Expenses, Salesmen	10,000.00
General Expense - Office	8,000.00
Advertising	17,000.00
Bad Debts	1,000.00
Cash Discounts Allowed	2,000.00
Bank Interest	1,300.00
Bond Interest	6,000.00
Loss on Sale of Fixed Assets	5,000.00
Land	150,000.00
Buildings - Factory	230,000.00
Buildings - Office	12,000.00
Plant and Machinery	260,000.00
Office Equipment	7,000.00
Delivery Equipment	14,000.00
Containers	6,000.00
Patents	30,000.00
Sinking Fund Investment	80,000.00
Goodwill	25,000.00
Organization Expense	4,000.00
Discount on Bonds	2,000.00
Subscription - Preferred	40,000.00
Subscribers	20,000.00
	<u>\$ 1,767,600.00</u>

CREDIT BALANCES

Bank Overdraft	\$ 5,000.00
Bank Loan	25,000.00
Bills under Discount	15,000.00
Returned Purchases - R.M.	3,000.00
Accounts Payable	25,000.00
Bills Payable	20,000.00
Sales	674,000.00
Sales Tax	2,000.00
Cash Discounts Earned	3,000.00
Rents Receivable	2,300.00
Interest Earned on S.F.	2,000.00

COST AND MANAGEMENT

Reserve for Bad Debts	4,000.00
Reserves for Depreciation:	
Buildings - Factory	22,000.00
Buildings - Office	4,000.00
Plant and Machinery	60,000.00
Office Equipment	3,000.00
Delivery Equipment	7,000.00
Containers	1,000.00
Containers Out	2,000.00
Bonds - 5%	150,000.00
Capital Stock:	
6% Preferred - Subscribed:	300,000.00
Common - Authorized 18,000 shares without par value.	
Issued and fully paid, 12,000 shares	150,000.00
Distributable Surplus	50,000.00
Capital Surplus - Realized	25,000.00
Capital Surplus from Revaluation of Fixed Assets	30,000.00
General Reserve	75,000.00
Sinking Fund Reserve	76,500.00
Sinking Fund Surplus	1,500.00
Unappropriated Profits	30,300.00

\$ 1,767,600.00

Inventories, April 30, 1942, were: Finished Goods \$55,150.00; Work in Process \$50,000.00; Raw Material \$65,000.00; Factory Supplies \$2,000.00.

There are Direct Wages Unpaid \$1,000.00 and Power \$1,000.00.

Unexpired Insurance, Factory, \$300.00.

Provide for Depreciation as follows: In Buildings 2½%; In Plant and Machinery 10%; In Delivery Equipment 20%; In Containers 20%; and in Office Equipment 10%.

Write 10% off the Patents.

Included in Plant and Machinery are machines costing \$20,000.00 which are fully depreciated but which are still being used. Manufacture is to be charged with depreciation in these machines as usual, and you will set up the credit against this part of the charge as you consider appropriate.

Of the depreciation in delivery equipment, one-half is to be treated as a factory charge, and the remainder as a Selling Expense.

Write off the Bad Debts and add \$500.00 to the Reserve for Bad Debts.

Of the advertising, \$2,000.00 represents material that will be used in the next fiscal period.

The bonds were outstanding throughout the year.

Write \$200.00 off the Discount on Bonds.

Write off \$2,000.00 of the Organization Expense.

The annual instalment to the Sinking Fund is \$4,000.00. The interest earned has been added to the investment and the annual instalment will be paid in May, 1942. On the basis of estimates, the interest earned should have been \$2,200.00.

EXAMINATION QUESTIONS

Make the necessary appropriations relative to the sinking fund, and also any adjustment necessary to cover the shortage in interest earned in relation to estimates.

Provide for Dominion Income Tax.

Dividends at the rate attached to the Preferred shares on the amount paid up only, and of \$1.00 a share on the Common shares have been declared and will be paid in May, 1942. Provide for these.

The Containers Out are used in shipping goods, have been charged to customers, and are returnable.

Of Rents Receivable, \$300.00 has been received in advance on account of the next fiscal period.

Of the Loss from Sale of Fixed Assets, \$3,000.00 represents the amount below appraised value realized from sale and the remainder is a loss on assets that had not been included in the appraisal.

Of the Bank Interest, \$1,000.00 is on loans that were fairly constant throughout the year, while the remainder is the charge on purely seasonal loans.

Add \$30,000.00 to the General Reserve.

The total of Accounts Receivable, including the charge for containers, was \$62,000.00 which is offset by \$2,000.00 of credit balances in the customers' ledger for payments received in advance of deliveries of goods not yet shipped or charged.

On the other hand, the total of the credits in the Accounts Payable Ledger was \$28,000.00 which is offset by charges for payments, under contracts for material, in advance of deliveries, \$3,000.00.

The Factory Supplies include oil, waste, and other items necessary in the factory operations but which are not direct materials. The amount used is thus part of the factory overhead expenses.

(b) State reason for your treatment of the depreciation charges relative to machines already fully depreciated.

(Note: Credit marks will be given on the basis of part completion of this problem if not wholly completed).

- 15 4. The "A" Manufacturing Company Ltd. with head office at Montreal has a branch at Hamilton, Ontario.

Goods are supplied to the branch, at cost, by the head office which pays the branch expenses, while all branch cash is remitted to the head office.

The branch keeps its own records, prepares its own operating accounts, and sends reports to the head office covering operations and its own assets.

From information submitted by the branch and other information relative to the head office, prepare:

- (a) The operating accounts of the Branch:
- (b) The Head Office account in the Branch Books, and the Branch Account in the Head Office Books after taking into account the profit or loss of the branch:
- (c) A Consolidated Balance Sheet of the company, i.e., of the business as a whole as at December 31, 1941.

Consideration will be given to the form of the Balance Sheet.

The Branch reports reveal:

COST AND MANAGEMENT

Sales on account 1941	\$104,000.00
Returned Sales	800.00
Other Allowances to Customers	400.00
Cash Received on Customers' Accounts	106,000.00
Cash Sales	30,000.00
Stock - Inventory, January 1, 1941	18,800.00
Stock - Inventory, December 31, 1941	21,600.00
Bad Debts	600.00
Goods Supplied by Head Office	98,000.00
Rent Paid	2,400.00
Taxes Paid	600.00
General Expenses Paid	4,200.00
Salaries Paid	14,000.00
Accounts Receivable - January 1, 1941	25,200.00
Accounts Receivable - December 31, 1941	21,400.00

The Trial Balance of the Head Office at December 31, 1941,
before taking up the branch profit was:

The "A" Manufacturing Company Ltd.

TRIAL BALANCE

December 31, 1941

Debit Balances		Credit Balances	
Bank - On Deposit	\$ 16,800.00	Accounts Payable	\$ 14,000.00
Accounts Receivable	20,000.00	Bills Payable	10,000.00
Bills Receivable	10,000.00	Bank Loans	20,000.00
Stock - Inventory	42,000.00	Mortgage Payable	18,000.00
Land	15,000.00	Capital Stock	129,000.00
Buildings	30,000.00	Unappropriated Profits ..	22,600.00
Plant and Machinery	52,600.00		
Hamilton Branch	27,200.00		
	\$213,600.00		\$213,600.00

(d) What entries should be made and in whose books would they be made if:

(i) Goods supplied by the Head Office to the branch were in transit at the end of the year?

(ii) Cash remitted by the pranch was in transit at the end of the year?

(e) Make the entry in the branch books after its net profit is determined, and the head office entry to take up the profit.

EXAMINATION — BOOKKEEPING

Thursday, April 30th, 1942, 6.00 to 10.00 p.m.

1. (a) What do you understand by the term, "Double Entry Bookkeeping?"
- (b) State the difference between Double and Single Entry Bookkeeping.
2. (a) State what is meant by Assets. Give three examples.
- (b) Liabilities. Give three examples.
- (c) Proprietorship.
- (d) Balance Sheet.
- (e) Profit and Loss Statement.
- (f) Trial Balance.

EXAMINATION QUESTIONS

3. What is meant by,
The Accounting Equation.
4. Record the following transactions in the accounting equation without any division of either of the three elements to show the kind of asset or liability.
 1. Robert Thompson invested \$1,000.00 cash in a furniture repair and upholstering shop.
 2. Equipment was purchased for \$300.00, cash.
 3. A bank loan for \$400.00 was secured.
 4. Purchased office furniture for \$300.00 on account.
 5. Mr. Thompson withdrew \$200.00 cash from the business for his personal use.
 6. Purchased a building for \$1,500.00 of which \$300.00 was paid in cash and three \$400.00 notes payable were given for the balance.
 7. Purchased a second hand delivery truck for \$600.00 on account.
 8. Paid one of the \$400.00 notes given in payment for the building purchased (in question 6).
 9. Sold one third of the office furniture purchased in (4) for \$100.00 cash.
 10. Paid \$200.00 on the delivery truck purchased in (7).
 11. Gave a thirty day note payable on the account incurred in (4).
 12. Mr. Thompson had for his personal use a typewriter valued at \$100.00. He decided to turn this over to the shop for use there.
5. Explain the purpose of the books of original entry, "Returned Purchases and Allowances" and "Returned Sales and Allowances", also the posting from these to the Ledger and the meaning of the Ledger Accounts with the above titles. Tell why the totals of the above books of original entry are posted to the debit or credit side of the accounts whichever the case may be.
6. Outline fully but concisely what you understand by the term, "Depreciation" and explain why it is necessary that provision should be made for this each year in closing the accounts and preparing the financial statements.
7. Should repairs be charged to Profit and Loss in addition to the provision for depreciation? Give reasons.
8. (a) What do you understand by accrued assets, accrued liabilities and deferred charges? How, if at all, would it affect our statement of profit and loss for the year and the balance sheet if we do not bring these into the accounts before preparing the statements?
(b) During the year 1940 wages amounting to \$9,000.00 were paid and charged into Wages account, the last pay day being in December 1940. Since that date employees had earned \$120.00 which will be paid in January 1941.
Show the Wages Account with a balance of \$9,000.00 and raise the necessary entries to record the earned but unpaid and unrecorded wages and to close the Wages account; also the entries, if any, you would make on January 31, 1941 on starting the work of the new year. Wages were paid on January 10, 1941 amounting to \$500.00. When these have been brought into the Wages account, what will the balance in the account then represent?

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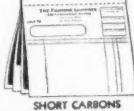
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MEMBERS' FEES



As we rapidly approach the end of our fiscal year there are still some outstanding fees not yet paid. May we urge all members to see that current fees are paid immediately in order that we may close our books as soon after April 30th as possible, and thus save the Society time and money.

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The Secretary,

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ATTENTION!

From time to time we receive requests from our Western Chapters to have Eastern members who may be visiting the West, call on our Chapters there. Any member who can address the Chapters and is willing to do so will be doubly welcomed, but members who merely wish to pay a courtesy call will receive a royal welcome. Remember the fellows out West are far away from Headquarters, and a visit on your part when in the vicinity will do a lot to help them.

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